

## **Amendments to the Specification**

The Examiner has objected to the title as not being descriptive of the invention and required a new title. As such, please change the title to:

### **FUEL CARTRIDGE WITH FLEXIBLE LINER CONTAINING INSERT**

Please replace the paragraph beginning on page 2, line 10 and end on page 2, line 21, which corresponds to paragraph [0008] in the corresponding published application U.S. 2005/0023236, with the following paragraph:

Due to the migration of the hydrogen ions ( $H^+$ ) through the PEM from the anode through the cathode and due to the inability of the free electrons ( $e^-$ ) to pass through the PEM, the electrons must flow through an external circuit, which produces an electrical current through the external circuit. The external circuit may be any useful consumer electronic devices, such as mobile or cell phones, calculators, personal digital assistants and laptop computers, among others. DMFC is discussed in United States patent nos. 5,992,008 and 5,945,231, which are incorporated by reference in their entireties. Generally, the PEM is made from a polymer, such as Nafion® available from DuPont, which is a perfluorinated material having a thickness in the range of about 0.05 mm to about 0.50 mm, or other suitable membranes. The anode is typically made from a ~~Teflonized~~ Teflon®-treated carbon paper support with a thin layer of catalyst, such as platinum-ruthenium, deposited thereon. The cathode is typically a gas diffusion electrode in which platinum particles are bonded to one side of the membrane.

Please replace the paragraph beginning on page 2, line 26 and ending on page 2, line 31, which corresponds to paragraph [0010] in the corresponding published application U.S. 2005/0023236, with the following paragraph:

Suitable catalysts include platinum and ruthenium, among other metals. The hydrogen fuel produced from reforming sodium borohydride is reacted in the fuel cell with an oxidant, such as O<sub>2</sub>, to create electricity (or a flow of electrons) and water byproduct. Sodium borate (NaBO<sub>2</sub>) byproduct is also produced by the reforming process. Sodium borohydride fuel cell is discussed in United States published patent application no. 2003/0082427 which issued as U.S. patent no. 6,924,054 on August 8, 2005 and is incorporated herein by reference.

Please replace the paragraph beginning on page 3, line 1 and ending on page 3, line 6, which corresponds to paragraph [0011] in the corresponding published application U.S. 2005/0023236, with the following paragraph:

The patent literature discloses a number of non-pressurized and pressurized portable fuel tank or fuel storage for fuel cells. United States patent application publication no. 2002/0018925 A1, which issued as U.S. patent no. 6,660,421 on December 9, 2003, discloses an electronic device with a cavity, where a refillable balloon containing fuel is stored. This balloon is made from an elastic material. United States patent application publication no. 2003/0008193 A1 discloses a flexible walled fuel tank that contains fuel and an absorbent material.

Please replace the paragraph beginning on page 3, line 14 and ending on page 3, line 19, which corresponds to paragraph [0013] in the corresponding published application U.S. 2005/0023236, with the following paragraph:

United States patent no. 6,506,513 B1 discloses, among other things, a fuel tank comprising a pressure adjusting mechanism for maintaining a constant pressure within the tank and an inner bellow containing fuel. United States patent publication nos. 2002/0197522, which issued as U.S. patent no. 7,005,206 on February 28, 2006, and 2003/0082427, which issued as U.S. patent no. 6,924,054 on August 2, 2005, disclose a fuel cartridge comprising a fuel bladder and a pressurized mechanism applied to the fuel bladder. ~~Publication '427~~ The '054 patent further discloses a bladder adapted to receive liquid byproduct(s) from the fuel cell.

Please replace the paragraph beginning on page 6, line 27 and ending on page 7, line 20, which corresponds to paragraph [0047] in the corresponding published application U.S. 2005/0023236, with the following paragraph:

As illustrated in the accompanying drawings and discussed in detail below, the present invention is directed to a fuel cartridge, which stores fuel cell fuels such as methanol and water, methanol/water mixture, methanol/water mixtures of varying concentrations or pure methanol. Methanol is usable in many types of fuel cells, e.g., DMFC, enzyme fuel cell, reformat fuel cell, among others. The fuel cartridge may contain other types of fuel cell fuels, such as ethanol or alcohols, chemicals that can be reformatted into hydrogen, or other chemicals that may improve the performance or efficiency of fuel cells. Fuels also include potassium hydroxide (KOH) electrolyte, which is usable with

metal fuel cells or alkali fuel cells, and can be stored in fuel cartridges. For metal fuel cells, fuel is in the form of fluid borne zinc particles immersed in a KOH electrolytic reaction solution, and the anodes within the cell cavities are particulate anodes formed of the zinc particles. KOH fuel is disclosed in United States ~~published patent application~~ no. ~~2003/0077493~~ 6,764,785, entitled "Method of Using Fuel Cell System Configured to Provide Power to One or more Loads," ~~published on April 24, 2003, which is~~ incorporated herein by reference in its entirety. Fuels also include a mixture of methanol, hydrogen peroxide and sulfuric acid, which flows past a catalyst formed on silicon chips to create a fuel cell reaction. Fuels also include aqueous sodium borohydride ( $\text{NaBH}_4$ ) and water discussed above. Fuels further include hydrocarbon fuels, which include, but are not limited to, butane, kerosene, alcohol and natural gas, disclosed in United States ~~published patent application~~ no. ~~2003/0096150~~ 6,686,077, entitled "Liquid Hereto-Interface Fuel Cell Device," ~~published on May 22, 2003, which is~~ incorporated herein by reference in its entirety. Fuels also include liquid oxidants that react with fuels. The present invention is, therefore, not limited to any type of fuels, electrolytic solutions, oxidant solutions or liquids contained in the cartridge. The term "fuel" as used herein includes all fuels that can be reacted in fuel cells, and includes, but is not limited to, all of the above suitable fuels, electrolytic solutions, oxidant solutions, liquids, and/or chemicals and mixtures thereof.

Please replace the paragraph beginning on page 8, line 27 and ending on page 9, line 10, which corresponds to paragraph [0051] in the corresponding published application U.S. 2005/0023236, with the following paragraph:

Valve 20 may optionally have membrane 32 covering its opening to prevent dirt from entering the cartridge. Preferably, membrane 32 only allows air or other gases to enter or leave the cartridge, and keeps liquid from entering or leaving the cartridge. Such gas permeable, liquid impermeable membrane is disclosed in commonly owned, co-pending patent application serial no. 10/356,793, entitled "Fuel Cartridge for Fuel Cells," filed on January 31, 2003 and published on August 5, 2004 as U.S. Pub. No. 2004/0151962 A1, in United States patent no. ~~3,508,708~~ 3,507,708, entitled "Electric Cell with Gas Permeable Vent Stopper," issued on April 21, 1970, and in United States patent no. 4,562,123, entitled "Liquid Fuel Cell," issued on December 31, 1985. The disclosures of these references are incorporated herein by reference in their entireties. Alternatively, membrane 32 can be used without valve 20. Such membranes can be made from polytetrafluoroethylene (PTFE), nylon, polyamides, polyvinylidene, polypropylene, polyethylene or other polymeric membrane. A commercially available hydrophobic PTFE microporous membrane can be obtained from W.L Gore Associates, Inc. Goretex® is a suitable membrane. Goretex® is a microporous membrane containing pores that are too small for liquid to pass through, but are large enough to let gas through.